

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for preparing transformed plants expressing zoonosis free human thyroid stimulating hormone receptor (hTSHR) or human thyroid stimulating hormone receptor-extracellular domain (hTSHR-ECD), said method comprising which comprises the steps of:
 - (a) transforming plant cells with the following polynucleotide sequences:
 - (i) a polynucleotide sequence encoding hTSHR or hTSHR-ECD;
 - (ii) a promoter that functions in plant cells to cause the production of an RNA molecule operably linked to the polynucleotide sequence of (i); and
 - (iii) a 3' -non-translated region that functions in plant cells to cause the polyadenylation of the 3'-end of said RNA molecule;
 - (b) selecting transformed plant cells; and
 - (c) obtaining transformed plant by regenerating transformed plant cells into plants expressing soluble hTSHR or soluble hTSHR-ECD.
2. (Original) The method according to claim 1, wherein said plant is *Nicotiana tabacum*, *Cucumis melo*, *Curcumis sativa*, *Citrullus vulgaris* or *Brassica campestris*.
3. (Original) The method according to claim 1, wherein said transformation is performed with an *Agrobacterium* transformation system.
4. (Previously presented) The method according to claim 3, wherein the *Agrobacterium* transformation system is an *Agrobacterium tumefaciens*-binary vector system.
5. (Canceled)
6. (Withdrawn) A transformed plant prepared by the method of claim 1 which expresses hTSHR or hTSHR-ECD.
7. (Currently amended) A method for preparing zoonosis free human thyroid stimulating hormone receptor (hTSHR) or human thyroid stimulating hormone receptor-extracellular domain (hTSHR-ECD), said method comprising which comprises the steps of:

- (a) transforming plant cells with the following polynucleotide sequences:
 - (i) a polynucleotide sequence encoding hTSHR or hTSHR-ECD;
 - (ii) a promoter that functions in plant cells to cause the production of an RNA molecule operably linked to the polynucleotide sequence of (i); and
 - (iii) a 3' -non-translated region that functions in plant cells to cause the polyadenylation of the 3'-end of said RNA molecule;
- (b) selecting transformed plant cells;
- (c) obtaining transformed plant by regenerating said transformed plant cells; and
- (d) recovering soluble hTSHR or soluble hTSHR-ECD from said transformed plant.

8. (Original) The method according to claim 7, wherein said plant is *Nicotiana tabacum*, *Cucumis melo*, *Curcumis sativa*, *Citrullus vulgaris* or *Brassica campestris*.

9. (Original) The method according to claim 7, wherein the transformation is performed with an *Agrobacterium* transformation system.

10. (Original) The method according to claim 9, wherein said *Agrobacterium* transformation system is an *Agrobacterium tumefaciens*-binary vector system.

11. (Withdrawn) A transformed plant prepared by the method of claim 2 which expresses hTSHR or hTSHR-ECD.

12. (Withdrawn) A transformed plant prepared by the method of claim 3 which expresses hTSHR or hTSHR-ECD.

13. (Withdrawn) A transformed plant prepared by the method of claim 4 which expresses hTSHR or hTSHR-ECD.

14. (Canceled)

15. (New) The method of claim 1, wherein said hTSHR or hTSHR-ECD binds a human hTSHR serum autoantibody from a subject suffering from a autoimmune thyroid disease.

16. (New) The method of claim 7, wherein said hTSHR or hTSHR-ECD binds a human hTSHR serum autoantibody from a subject suffering from a autoimmune thyroid disease.
17. (New) The method of claim 15, wherein the autoimmune thyroid disease causes hyperthyroidism.
18. (New) The method of claim 17, wherein the autoimmune disease is Grave's disease.
19. (New) The method of claim 16, wherein the autoimmune thyroid disease causes hyperthyroidism.
20. (New) The method of claim 19, wherein the autoimmune disease is Grave's disease.
21. (New) The method of claim 1, wherein said plant cells are transformed with hTSHR-ECD.
22. (New) The method of claim 7, wherein said plant cells are transformed with hTSHR-ECD.